

# **LITHOGRAPHIC ACTUATOR MECHANISM, LITHOGRAPHIC APPARATUS, AND DEVICE MANUFACTURING METHOD**

## **ABSTRACT**

The present invention relates to a Lorentz actuator in the context of a lithographic projection apparatus. The present invention improves the thermal performance of a Lorentz actuator over the prior art by employing a plurality of coils, separated by separation layers of high thermal conductivity material in good thermal contact with a cooling element. In this way, heat flows more quickly from hotspot regions near the center of the coils into the cooling element. According to an embodiment of the invention, the cooling element is arranged to be in line with the separation layers so as to optimize the thermal connection between these two members. It is found that splitting a parent coil into two coils provides a practical balance between improved thermal performance and undesirable increases in volume and complexity.